

**WHAT IS CLAIMED IS:**

1. A device isolation trench forming method,  
comprising the steps of:

defining at least one trench in a silicon  
substrate;

forming an insulating film inside the trench so  
that only each corner portion at the bottom of the trench  
is exposed; and

selectively etching the silicon substrate from the  
corner portion.

2. The device isolation trench forming method  
according to claim 1, wherein the insulating film is a  
silicon oxide film.

3. The device isolation trench forming method  
according to claim 1, wherein the insulating film is a  
deposited film formed by a method selected from either a  
sputtering method or a CVD method.

4. The device isolation trench forming method  
according to claim 1, wherein the etching is isotropic  
etching.

5. The device isolation trench forming method  
according to claim 1, wherein the insulating film is

formed inside the trench so that only the corner portions become thin and thereafter the silicon substrate at said each corner portion is exposed by etching.

6. The device isolation trench forming method according to claim 5, wherein the insulating film is a silicon oxide film.

7. The device isolation trench forming method according to claim 5, wherein the insulating film is a deposited film formed by a method selected from a sputtering method or a CVD method.

8. A device isolation trench forming method, comprising the steps of:

forming a plurality of trenches adjacent to a silicon substrate;

forming an insulating film inside the plurality of trenches so that only corner portions at bottoms of the plurality of trenches are exposed;

selectively etching the silicon substrate from the corner portions; and

oxidizing the interiors of the plurality of trenches and insulating the plurality of trenches at the bottoms thereof by a silicon oxide film.

9. The device isolation trench forming method

according to claim 8, wherein the insulating film is a silicon oxide film.

10. The device isolation trench forming method according to claim 8, wherein the insulating film is a deposited film formed by a method selected from a sputtering method or a CVD method.

11. The device isolation trench forming method according to claim 8, wherein the trenches are respectively device isolation trenches of an SOI type transistor.

12. The device isolation trench forming method according to claim 8, wherein the insulating film is formed inside the trenches so that only the corner portions become thin and thereafter the silicon substrate at said each corner portion is exposed by etching.

13. The device isolation trench forming method according to claim 12, wherein the insulating film is a silicon oxide film.

14. The device isolation trench forming method according to claim 12, wherein the insulating film is a deposited film formed by a method selected from a sputtering method or a CV method.